WHAT IS CLAIMED IS:

1. A computer program that makes a computer function as:

managing a relationship between first configuration information concerning a configuration of a first network layer and second configuration information concerning a configuration of a second network layer, and automatically updates the first configuration information and the second configuration information following a change in the configuration; and

instructing the second network layer, when the configuration of the first network layer is changed, to change the configuration of the second network layer.

2. The computer program according to claim 1, wherein

when a bandwidth is changed in the first network layer, the instructing includes issuing a change instruction to the second network layer concerning the change of the bandwidth.

3. The computer program according to claim 1, wherein

the second network layer consists of a plurality of layer elements, and the managing includes managing a relationship between the second configuration information and the first configuration information for each of the plurality of layer elements.

4. The computer program according to claim 1, wherein

the managing includes managing service information concerning

communication service provided from the first network layer and the second network layer, by relating the service information to the first configuration information and the second configuration information, and automatically updating the first configuration information, the second configuration information, and the service information following the change of the configuration.

5. The computer program according to claim 4, wherein when the communication service is being provided, the instructing includes notifying the network layer about disapproval of changing the configuration.

6. The computer program according to claim 1, further comprising receiving a notification of an occurrence of a trouble from the first network layer, wherein the instructing includes notifying the second network layer about the occurrence of the trouble.

7. The computer program according to claim 6, wherein the instructing includes notifying, upon lapse of a predetermined time since the occurrence of the trouble, a network manager about the occurrence of the trouble.

8. The computer program according to claim 1, wherein the first network layer is configured to have a link, and the second network layer is configured to have a path that is utilized in the

link.

9. A network layer link apparatus comprising:

a managing unit that manages a relationship between first configuration information concerning a configuration of a first network layer and second configuration information concerning a configuration of a second network layer, and automatically updates the first configuration information and the second configuration information following a change in the configuration; and

a link unit that, when the configuration of the first network layer is changed, instructs the second network layer to change the configuration of the second network layer.

10. The network layer link apparatus according to claim 9, wherein

when a bandwidth is changed in the first network layer, the link unit issues a change instruction to the second network layer concerning the change of the bandwidth.

11. The network layer link apparatus according to claim 9, wherein

the second network layer consists of a plurality of layer elements, and the managing unit manages a relationship between the second configuration information and the first configuration information for each of the plurality of layer elements.

12. The network layer link apparatus according to claim 9, wherein

the managing unit manages service information concerning communication service provided from the first network layer and the second network layer, by relating the service information to the first configuration information and the second configuration information, and automatically updates the first configuration information, the second configuration information, and the service information following the change of the configuration.

13. The network layer link apparatus according to claim 12, wherein when the communication service is being provided, the link unit notifies the network layer about disapproval of changing the configuration.

14. The network layer link apparatus according to claim 9, wherein when the link unit receives a notification of an occurrence of a trouble from the first network layer, the link unit notifies the second network layer about the occurrence of the trouble.

15. The network layer link apparatus according to claim 14, wherein after a lapse of a predetermined time since the occurrence of the trouble, the link unit notifies a network manager about the occurrence of the trouble.

16. The network layer link apparatus according to claim 9, wherein the first network layer is configured to have a link, and the

second network layer is configured to have a path that is utilized in the link.

17. A network layer link method comprising:

managing a relationship between first configuration information concerning a configuration of a first network layer and second configuration information concerning a configuration of a second network layer, and automatically updates the first configuration information and the second configuration information following a change in the configuration; and

instructing the second network layer, when the configuration of the first network layer is changed, to change the configuration of the second network layer.

18. The network layer link method according to claim 17, wherein

when a bandwidth is changed in the first network layer, the instructing includes issuing a change instruction to the second network layer concerning the change of the bandwidth.

19. The network layer link method according to claim 17, wherein

the second network layer consists of a plurality of layer elements, and the managing includes managing a relationship between the second configuration information and the first configuration information for each of the plurality of layer elements.

20. The network layer link method according to claim 17, wherein the managing includes managing service information concerning communication service provided from the first network layer and the second network layer, by relating the service information to the first configuration information and the second configuration information, and automatically updating the first configuration information, the second configuration information, and the service information following the change of the configuration.

21. The network layer link method according to claim 20, wherein when the communication service is being provided, the instructing includes notifying the network layer about disapproval of changing the configuration.

22. The network layer link method according to claim 17, further comprising receiving a notification of an occurrence of a trouble from the first network layer, wherein the instructing includes notifying the second network layer about the occurrence of the trouble.

23. The network layer link method according to claim 22, wherein the instructing includes notifying, upon lapse of a predetermined time since the occurrence of the trouble, a network manager about the occurrence of the trouble.

24. The network layer link method according to claim 17, wherein

the first network layer is configured to have a link, and the second network layer is configured to have a path that is utilized in the link.